

Appl. No. 09/831,462
Atty. Docket No. 7943M
Amdt. Dated January 23, 2004
Reply to First Office Action Dated December 3, 2003
Customer Number 27752

REMARKS

Claim 6 is amended to incorporate matter from Claims 1 to 5 to define the present chewing gum compositions with even greater particularity. Claim 6 now specifies that the chewing gum composition provides conditioning effects to a subject's oral cavity surfaces and that the polymeric surface active agent provides such conditioning effects which thereby provide improved cleaning and smooth tooth feel impression. Support for this amendment is found in original Claims 1 to 5 and in the Specification particularly at Page 2, lines 1-18 and at Page 4 under the section Polymeric Surface Active Agent.

Claims 1 to 5 are canceled without prejudice. Applicants reserve the right to pursue in a divisional application any subject matter cancelled as a result of these amendments.

Claim 12 is amended to delete the reference to "Glass H", which is replaced by reciting that the glassy polyphosphate has an average chain length of about 21.

Claims 13 and 16 are amended to recite that the metallic ion is astringency conferring.

Claim 14 is amended to insert the word "gum" to correct an inadvertent omission.

Claim 17 is amended to recite that the particulate polyphosphate provides surface conditioning effects and a crunchy texture to the composition.

New Claims 49 and 50 are added defining a method of providing surface conditioning effects to a subject's teeth and oral mucosa by administering a chewing gum composition according to Claims 6 and 17, respectively.

No new matter is involved with the above amendments to the claims. No additional claims fee is known to be due as a result of these amendments.

By these amendments, Claims 6-17 and 26 to 50 remain pending in the application.

Claims Rejection Under 35 USC § 112

The Examiner has rejected Claim 12 under 35 USC § 112, second paragraph, as being indefinite in reciting the term "Glass H" which is a tradename. Claim 12 now recites that the glassy polyphosphate has an average chain length of about 21, which is descriptive of the material Glass H.

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Applicants submit that Claim 12 as amended is in full compliance with the requirements of 35 USC § 112, second paragraph.

Claims Rejection Under 35 USC §102(b)/ §103(a)

Claims 1 to 5 are rejected under 35 USC §102(b) as anticipated by or in the alternative under 35 U.S.C. §103(a) as obvious over US 4,808,401 or US 4,889,712 both to Gaffar et al. It is contended that each of these references discloses chewing gum compositions including water soluble and water insoluble components, polymeric surfactant such as polyphosphate and metallic ions such as zinc. It is asserted that the surface conditioning effects are inherently provided when an individual chews the disclosed chewing gums and that any differences between the present compositions and Gaffar's chewing gums are obvious.

Claims 6 and 8 to 16 are rejected under 35 U.S.C. §102(b) as being anticipated by US 4,808,401 to Gaffar et al., which the Examiner contends discloses chewing gum components in amounts presently claimed.

Claims 7, 17 and 26 to 48 are rejected under 35 U.S.C. §103(a) as obvious over US 4,808,401 to Gaffar et al. The Examiner contends that finding the optimum aqueous solubility, chain length and hardness of the polyphosphate component would require nothing more than routine experimentation by one reasonably skilled in the art.

Applicants respectfully traverse the Examiner's rejection of the claims under 35 USC §102(b) and 35 U.S.C. §103(a) and submit that the claims as amended are distinct and unobvious from the cited art.

Applicants submit that there is no disclosure or any suggestion in the Gaffar patent with respect to formulating polymeric surface active agents such as linear polyphosphates to provide conditioning benefits to oral surfaces in a chewing gum composition, much less that such conditioning benefits or effects on the chemical characteristics of teeth and mucosal surfaces would be provided by the polymeric surface active agent and even less that such conditioning benefits would be consumer noticeable and provide remarkable cleaning impression and positive mouth feel characteristics for extended periods of time following use. Further there is no teaching or any suggestion whatsoever that such polymeric surface active agent would reduce the astringency of metallic ions when formulated in the present chewing gum compositions but would not

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significantly reduce the efficacy of the metallic ions. Neither is there any teaching or suggestion that a particulate polyphosphate used as the polymeric surface active agent would provide a crunchy texture to the product which lasts throughout the initial minutes of mastication and which disappears over time due to the solubility characteristics of the polyphosphate leaving no gritty residue.

Firstly, Claims 1 to 5 are cancelled and thus the Examiner's rejection of these claims under 35 USC §102(b) as anticipated by or in the alternative under 35 U.S.C. §103(a) as obvious over US 4,808,401 or US 4,889,712 both to Gaffar et al. will not be addressed at this time.

Applicants respectfully traverse the rejection of Claims 6 and 8 to 16 as now amended under 35 U.S.C. §102(b) as being anticipated and of Claims 7, 17 and 26 to 48 as now amended under 35 U.S.C. §103(a) as obvious over US 4,808,401 to Gaffar et al.

US 4,808,401 to Gaffar discloses an improved method of inhibiting dental calculus by applying to the teeth an oral composition containing in an orally acceptable vehicle one or a mixture of linear molecularly dehydrated polyphosphate salts comprising water soluble alkali metal hexametaphosphates as essential anticalculus agents, and an amount of a fluoride ion source sufficient to supply about 25 ppm to about 2,000 ppm of fluoride ion, the improvement wherein salivary hydrolysis of P--O--P bonds in said hexametaphosphates by phosphatase enzymes is inhibited consisting essentially of including in said composition an effective inhibiting amount therefor within the range of about 0.05 to about 3 wt. % of a water soluble alkali metal or ammonium synthetic anionic linear polymeric polycarboxylate.

Clearly Gaffar's disclosure focuses only on improving the anticalculus efficacy of hexametaphosphates by including in the composition a linear polymeric polycarboxylate to inhibit the salivary hydrolysis of the P--O--P bonds in the hexametaphosphate. There is no disclosure or suggestion whatsoever in Gaffar that the present polyphosphate or other polymeric surface active agent would provide in a chewing gum composition (1) surface conditioning benefits resulting from altering the surface chemical characteristics of teeth and mucosal surfaces; (2) remarkable cleaning impression and positive mouthfeel effects for extended periods of time following use of the chewing gum; and (3) reduction of astringency conferred by metallic ion components without significantly reducing the efficacy of such metallic ions. Neither is there any disclosure or suggestion with respect

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to the present particulate polyphosphates that confer a crunchy texture to the product which lasts throughout the initial minutes of mastication and which disappears over time due to the solubility characteristics of the polyphosphate leaving no gritty residue.

Further, Gaffar's compositions require a fluoride source and a water soluble alkali metal or ammonium synthetic anionic linear polymeric polycarboxylate to be combined with the hexametaphosphate for improved anticalculus efficacy. The present claimed compositions do not require these components.

Applicants submit that Claims 6 and 8 to 16 as now presented, are novel over Gaffar et al. Applicants further submit that Claims 7, 17 and 26 to 48 are not obvious over Gaffar et al. There is no recognition in Gaffar of the desirability of changing the chemical surface characteristics of oral surfaces and thereby providing positive mouthfeel effects. Absent such recognition, Gaffar could not have made obvious the present claimed compositions and methods using a polymeric surface active agent such as a polyphosphate to provide these benefits as well as the additional benefit of reducing astringency conferred by metallic ions if present. Gaffar provides no motivation whatsoever that would lead one of skill in the art to select polymeric surface active agents having the recited physical and chemical properties that provide the above benefits in a chewing gum formulation.

At the request of the Examiner attached is a copy of the abstract of the disclosure. Please note our records indicate that the application as originally filed included this abstract.

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CONCLUSION

Applicants have made an earnest effort to place their application in proper form and to distinguish their invention as now claimed from the applied prior art. WHEREFORE, reconsideration of this application, entry of the amendments presented, entry of the abstract, withdrawal of the claims rejection under 35 U.S.C. §112, §102(b) and §103(a), and allowance of all application claims are respectfully requested.

Respectfully submitted,

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